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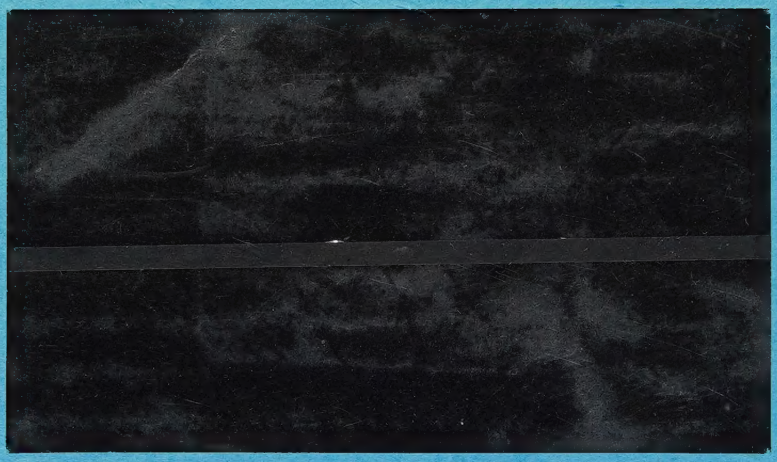
Reference No. 50-3

PACIFIC OCEANIC BIOLOGY
(Oceanographic Research)

C. J. Fish, SUPERVISOR

April 1, 1949 - June 30, 1949

WOODS HOLE, MASSACHUSETTS



WOODS HOLE OCEANOGRAPHIC INSTITUTION

Woods Hole, Massachusetts

Reference No. 50-3

PACIFIC OCEANIC BIOLOGY
(Oceanographic Research)

C. J. Fish, SUPERVISOR

April 1, 1949 - June 30, 1949

Periodic Status Report
Office of Naval Research
Contract N6-ori-195/TO 1/NR-083-003

January 1950

APPROVED FOR DISTRIBUTION C. O'D. Iselin
Director

ABSTRACT

The first phase of the oceanic biology program terminated on 30 June 1949. Results to date include the compilation of a bibliographic card index of Pacific oceanographic literature, translation and cataloging of captured Japanese nautical and oceanographic charts, and completion of eight Technical Reports. Available information on one of the designated subjects was found too fragmentary to warrant a report at this time. Three reports not assigned in the contract have been prepared.

Subj: The Pacific Oceanic Biology Project

1. The first phase of the oceanic biology program terminated on 30 June, 1949. Originally instituted on a two-year basis on 1 September 1946, the project was later extended to allow for additional assignments, including a special report for the Hydrographic Office not originally contemplated.

2. The objective has been to assemble and analyze available data on specified marine biological subjects in the central and western North Pacific. Full or part time services of marine biologists and selected technical assistants have been made available by the Woods Hole Oceanographic Institution as required for special studies.

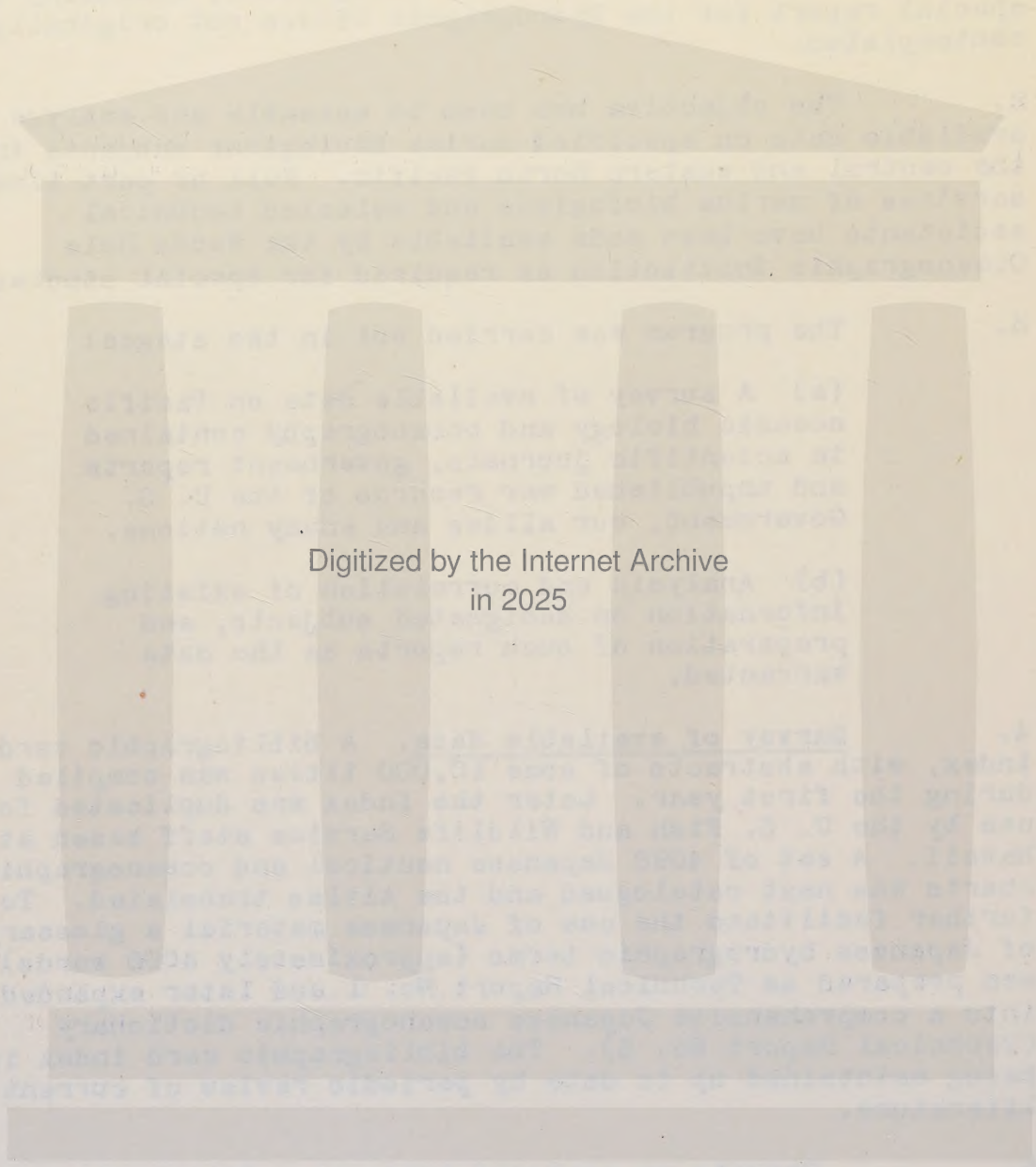
3. The program was carried out in two stages:

(a) A survey of available data on Pacific oceanic biology and oceanography contained in scientific journals, government reports and unpublished war records of the U. S. Government, our allies and enemy nations.

(b) Analysis and correlation of existing information on designated subjects, and preparation of such reports as the data warranted.

4. Survey of available data. A bibliographic card index, with abstracts of some 10,000 titles was compiled during the first year. Later the index was duplicated for use by the U. S. Fish and Wildlife Service staff based at Hawaii. A set of 4098 Japanese nautical and oceanographic charts was next catalogued and the titles translated. To further facilitate the use of Japanese material a glossary of Japanese hydrographic terms (approximately 4000 words) was prepared as Technical Report No. 1 and later expanded into a comprehensive Japanese oceanographic dictionary (Technical Report No. 5). The bibliographic card index is being maintained up to date by periodic review of current literature.

5. Reports on assigned subjects. Of the five subjects originally specified, and listed in Quarterly Progress Report No. 1, all but one have been covered in reports. Available data on the "occurrence and seasonal distribution of phosphorescent waters," when analyzed and plotted, was found too



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fragmentary for a report. The material is being retained, however, and will later be incorporated in a scientific paper when sufficient additional information has been acquired.

6. Three reports not designated in the contract have been prepared. These are 1) a Japanese glossary, 2) a Japanese dictionary and 3) a report on noxious marine animals. The latter was originally requested by the Bureau of Medicine and Surgery (Encl. A of Progress Rept. No. 1).

7. In all, eight Technical Reports have been completed during the first phase of the project:

a) "A glossary of Japanese terms used in physical oceanography" by Rodney Notomi, Technical Report No. 1. September 1947. 132 pp.

This report was requested on 7 May 1947 for use in Branch Hydrographic Office Tokyo. The terms are arranged in three columns to show equivalent Romanized Japanese, Japanese characters and English terms. Subsequently the Japanese Hydrographic Department requested and received permission from Branch Hydrographic Office, Tokyo, to reproduce this report for their own internal use (Ltr. Op 25T-CCB/mjb, Ser. 21930p25 of 10 Oct. 1947).

b) "Sonic fishes of the Pacific" by Marie P. Fish, Technical Report No. 2. August 1948, 144 pp.

Available data on sonic members of 42 families of teleosts are presented with an extensive bibliography of literature on the subject. The seasonal and regional distribution of subsurface noises attributable to fishes, have been charted from records contained in Submarine War Patrol reports.

c) "Practical aspects of coral reef growth" by Gordon A. Riley, Technical Report No. 3. August 1948, 27 pp.

A consideration of the present status of knowledge on Pacific reef growth and the environmental factors involved, with a classified bibliography of pertinent publications.

d) "Phytoplankton of the western north Pacific" by Gordon A. Riley and Ruth von Arx. Technical Report No. 4. November 1948, 141 pp.

Quantitative distribution of plankton and certain of its environmental factors, including surface temperature, transparency and the surface concentrations of phosphate, nitrate, nitrite and silicate. The report is based largely on Japanese data which have been averaged by five-degree squares over periods of three months for charting purposes. The report contains 49 pages of charts.

e) "Dictionary of Japanese terms used in oceanography" by Rodney Notomi. Technical Report No. 5. December 1948. 227 pp.

Terms used in physical, chemical, geological and biological oceanography are presented in the same manner as in Technical Report No. 1. This report is presumed to be reasonably inclusive since it contains all oceanographic terms encountered in a two-year review of Japanese scientific journals.

f) "Fouling in the western Pacific" by Louis W. Hutchins, Technical Report No. 6. March 1949, 156 pp.

The area treated in this report is somewhat larger than in others of the series, to permit incorporation of important data on the Hawaiian and Solomons-New Hebrides regions. Much of the information has been derived from a study of unpublished results of Navy-sponsored investigations and a large file of data on ship, net, and mine fouling acquired in the course of war-time operations.

g) "Noxious marine animals of the central and western North Pacific" by Charles J. Fish and Mary C. Cobb. Technical Report No. 7. April 1949, 87 pp.

An analysis of available data on inedible, venomous and ferocious marine species of coelenterates, molluscs, echinoderms, elasmobranchs, teleosts and reptiles, based on published records and unpublished military documents. Data on toxic dinoflagellates and blue-green algae are also presented.

h) "Marine mammals in the Pacific with particular reference to the production of underwater sound" by Marie P. Fish. Technical Report No. 8. June 1949, 69 pp.

Seasonal and regional distribution of the different species of marine mammals in the Pacific, with an analysis of existing information on the production of subsurface noise by these forms, the character of the sounds produced and the seasonal distribution of the sounds, charted from Submarine War Patrol records.

PERSONNEL

8.

Name	Title	Total Man Days*
Charles J. Fish	Senior Biologist, in charge (quarter time)	16
Marie P. Fish	Assistant Biologist	64
Mary C. Cobb	Secretary-Technician	64
	Temporary Assistants	37.5
		181.5 Man Days

*Man day consists of 8 working hours.